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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,462	05/31/2001	Toshiya Matsubara	209194US0	6882

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EXAMINER	
TRAN, THAO T	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/867,462	MATSUBARA ET AL.	
	Examiner	Art Unit	
	Thao T. Tran	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5 and 7-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-5 and 7-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. This is in response to the Amendments received on September 30, 2003. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

2. Claims 1, 3-5, 7-20 are currently pending in this application. Claims 2 and 6 have been canceled.

Claim Rejections - 35 USC § 112

3. In view of the prior Office action of March 21, 2003, the rejection under 35 U.S.C. 101 and 35 U.S.C. 112, 1st paragraph, has been withdrawn upon further consideration.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 3-5, and 7-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 5 are indefinite because the claims first recite an amount of B_2O_3 to be 0-12.0% and later 3%, which are conflicting with each other. If the amount of B_2O_3 is 0%, it cannot also be 3%. Clarification on the amount of B_2O_3 is required.

Double Patenting

6. In view of the prior Office action of March 21, 2003, the rejection of claims 1, 3-5, and 7-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 and 4-7 of Co-pending Application, Ser. No. 09/858,571, has been withdrawn since the copending Application has been abandoned.

7. In view of the prior Office action of March 21, 2003, the rejection of claims 1, 3-5, and 7-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of US Pat. 6,531,222, has been withdrawn upon further consideration.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3-5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawachi et al. (US Pat. 5,591,684).

Kawachi teaches a glass bubble and a method of making, comprising adding a combustible liquid (isopropyl alcohol) to a glass starting materials containing a foaming component (blowing agent) to form a slurry, wet-pulverizing (heating the slurry) to obtain powders (see col. 6, ln. 40-56).

The glass bubble has a composition, consisting essentially of, by weight, 40.0-60.0% of SiO_2, 5.0-22.0% of Al_2O_3, 3-20% of B_2O_3, 10-30% CaO, 0-15% BaO, 0-10% MgO, 0-10% ZnO, 0-10% SrO, 0-19% $Na_2O+K_2O+Li_2O$ (see Tables 1-2; claims 1 and 5).

Kawachi further teaches the glass bubble having a diameter of 38 microns or less and an average relative density of 0.66-1.25 g/cm^3. (see Table 2; col. 7, ln. 38; claim 6), substantially overlapping the instantly claimed ranges.

Kawachi is silent with respect to the average particle size. However, it would have been within the skill in the art that since Kawachi teaches the same composition of the hollow glass microsphere and substantially overlapping maximum particle size and density, that Kawachi's glass bubble would inherently have the same average particle size as that in the presently claimed invention.

Kawachi further teaches the weight % of boron oxide being 3.0-20.0% (see claim 5).

With respect to how an eluted amount of boron is determined, it would have been within the skill in the art that process limitations for measuring an amount of a constituent would have insignificant patentable weight in a claim directed to a product or a method of making.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1, 3-5, 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aria et al. (US Pat. 5,849,055), as evidenced by Kawachi.

Aria teaches a process of making hollow glass microspheres, comprising the steps of adding a combustible liquid (flammable liquid such as kerosene, alcohol) into a glass starting material, pulverizing the material to obtain a slurry with an average particle size of at most 3 microns, spraying the slurry into liquid droplets, and heating the liquid droplets to form the glass microspheres (see claims 1-4, 7).

The glass starting material contains 82% weight of SiO_2, 2% weight of Al_2O_3, 13% weight of B_2O_3, and 3% weight of Na_2O (see col. 11, ln. 4-9). The hollow glass microspheres produced have an average particle size of 15 microns, wherein the maximum particle size is at most 50 microns, and a density of 0.5 g/cm^3 (see Examples 3, 8 and 11).

Aria differs from the instant claim because the reference teaches the weight percent of Al_2O_3 to be 2% instead of 10-25%. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that the concentration of Al_2O_3 would have been adjusted to the instantly claimed range by routine experimentation, because Al_2O_3 concentration in this particular range has been known for increasing glass durability, as evidenced by Kawachi (see col. 3, ln. 23-26). See MPEP 2144.05, section II.

With respect to how an eluted amount of boron is determined, it would have been within the skill in the art that process limitations for measuring an amount of a constituent would have insignificant patentable weight in a claim directed to a product or a method of making.

In regards to claim 14, Arai teaches the use of an ultrasonic sprayer (see col. 4, ln. 55).

In regards to claims 16-20, Arai teaches the glass microspheres are recovered by a bag filter and then mixed with water and followed by centrifugal separation, the microspheres are classified by classifying treatment, and the portion of the material not being used after classification is recycled to the wet-pulverizing step (see col. 5, ln. 22-24; col. 11, ln. 25).

Response to Arguments

12. Applicant's arguments filed on September 30, 2003 have been fully considered but they are not persuasive.

With respect to the arguments that neither Kawachi nor Aria teaches the method of measuring an eluted amount of boron, again Applicants are reminded that process limitations for measuring an amount of a constituent would have insignificant patentable weight in a claim directed to a product or a method of making.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 703-306-5698, or 571-272-1080 (after 12/04/03). The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

tt

tt
November 24, 2003

RABON SERGENT
PRIMARY EXAMINER